

# MISSOURI Conservationist

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# Celebrating the Season of Reflection and Growth

January seems to be a month on the cusp — a significant point of transition when we reflect on the past year and look ahead to the new. While we celebrate momentous milestones achieved, we

challenge ourselves to keep getting better in the months ahead. It is a necessary season of both reflection and growth.

The Department has made tremendous strides in the last year. We continued to use a science-based approach to manage fish, forests, and wildlife in the state, with ongoing, long-term research projects on blue catfish, deer, and forest management. In addition to managing public lands for all Missourians to use, the Department worked directly with numerous landowners and communities on conservation projects on their property. We helped kids and families discover nature, worked with urban areas on community conservation, and helped feed the hungry through the Share the Harvest program. These annual accomplishments, plus many more, are outlined in the annual review section, starting on Page 11, of this issue.

As we look ahead, it's an exciting time for conservation. We continue to strategically and methodically plan for important areas of conservation emphasis. The Department has recently revised its strategic plan with conservation priorities for the next three years. Priorities include:

» **Cultivate a conservation ethic by promoting the relevance, importance, and value of fish, forests, and wildlife.**

This means increasing understanding and interest in natural resources beginning at an early age; communicating the social and economic value and quality of life provided by fish, forests, and wildlife; increasing citizen participation in outdoor activities; and partnering with landowners, non-profits, businesses, agricultural groups, communities, schools, and others to increase support of fish, forest, and wildlife conservation efforts.

» **Focus fish, forest, and wildlife management in identified priority geographies.** This means implementing the Department's comprehensive conservation strategy; coordinating with partners to identify the best opportunities to invest resources on a larger scale across the landscape that will sustain fish, forests, and wildlife; and targeting land acquisition in priority geographies.

» **Help citizens connect with fish, forests, and wildlife where they live, through a statewide approach to community conservation.** This means providing citizens across the state

with opportunities to learn about and experience the outdoors where they live; providing technical assistance to communities and partner organizations to help citizens protect fish, forests, and wildlife; and demonstrating and promoting conservation friendly development practices in urban settings.

» **Promote water quality and quantity for healthy fish, forest, and wildlife resources.** This means working with partners, including individuals, farmers, landowners, communities, non-profits, and other governmental agencies to promote best practices and policies that ensure sufficient aquatic habitat for fish, forests, and wildlife; communicating to citizens the relationship between water quality and quantity and healthy fish, forests, and wildlife; and setting an example for best practices in fish, forest, and wildlife management activities.

» **Implement a strategic approach to land acquisition to enhance habitat management and public access.** This means focusing land acquisition to both maximize fish, forest, and wildlife habitat conservation and increase citizen access to outdoor opportunities near where they live; and partnering with private landowners to implement voluntary access and easement programs.

» **Implement an equitable compensation system that balances fiscal responsibility with the ability to attract, retain, and develop staff.** This means investing in high-performing staff to deliver fish, forest, and wildlife conservation to Missourians; enhancing the Department's ability to recruit staff that reflect the diversity of the citizens we serve; and providing incentives for staff to advance their skills and abilities in both leadership and supervisory assignments.

History has taught us that citizen involvement is not only necessary in conservation, but it's critical to our long-term success. Conservation successes happen when we all work together in a strategic approach. Thank you for caring deeply about conservation in Missouri. We are making great progress — together.



Robert L. Ziehmer, director



## FEATURES

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### 19 **Animal Detective**

by *Tom R.D. Meister*

With a little time exploring outdoor Missouri, you can become familiar with the tracks and signs to solve mysteries of the wild

### 24 **Homegrown Milkweeds**

by *Norman Murray*

By growing milkweeds, you can help the monarch butterfly and other important pollinators

Cover: An eastern cottontail in the snow near  
Camdenton. Photograph by Noppadol Paothong. Find  
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📷 600mm lens +1.4 teleconverter • f/7.1

1/200 sec • ISO 800

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# WHAT IS IT?

Our photographers have been busy exploring the intricacies of outdoor Missouri. See if you can guess this month's natural wonder. The answer is revealed on Page 7.





## FOREST MANAGEMENT

### *Forest Management for White-Tailed Deer*

[November; Page 10] was a very good article. I did this two years ago. I called a professional forester, and he and I rode through my timber for an hour or more. He explained I had no regrowth of my oaks and hickories and my large walnut trees were the problem. A professional timber cutter harvested my walnut trees, and it sure opened up my canopy for regrowth. I'd suggest this practice to all outdoorsmen. The turkey and deer really use my woods as their homes.

*Michael Romesburg, Oregon, Missouri*

## BUGS AND SNAKES

We are originally from Utah. When we came out here, it was a bit of a shock with the huge bugs and snakes. We had no idea what some of them were until your magazine arrived. I have saved every issue because they are incredible! You all

do such a fantastic job serving the public. Keep up the good job.

*ChrisDee Lerch, Dixon*

## PUBLIC HUNTING

This was my first year using public hunting ground. I went out prior to the season starting and scouted for a location to use. Scrivner, Pikes, and Painted Rock are the closest, and I was impressed with each location. I wanted to take time to thank the people who make MDC what it is. Our state should be proud. The experience has taken me back to my childhood, working, hunting, and living outdoors.

*Dale Bruemmer, via Facebook*

## MEMORIES

I received my November magazine and read it from cover to cover. I am a 91-year-old lady in a retirement home, but I was a die-hard fisher

lady in my younger days. The picture on Page 2 [Reader Photo] of the turtle and duck sharing a log is my reason for writing. I lived a couple blocks from Carondelet Park when I was 11–16, and that park held all our school picnics every June. That picture reminded me of those days. Thanks for the memories.

*Laverne Schardan, St. Louis*

## NATURE AT NIGHT

Thank you for publishing Dan Zarlenga's marvelous photographic essay *Discovering Nature at Night* [Page 22] in the December 2015 issue of the magazine. Those images awed me. Zarlenga is clearly not only a skilled photographer, but also an artist with a special sensitivity for the beauty of Missouri's landscapes.

*Ian Darnell, via email*

The December 2015 issue of the *Missouri Conservationist* was stellar. We do not hear much about light pollution, but intrusive city lights obscure the grandeur of the heavens. Dan Zarlenga's time exposures reveal what ought to be observed by the naked eye, but is sadly so hidden nowadays. Thanks also to Deputy Director Tom Draper's cover piece [Note to Our Readers] recounting his love of Weimaraners. That fabulous breed was also my boyhood companions and friends.

*Fielding A. Poe, Sunset Hills*

I would like to say that the "photos at night" in the recent issue of your magazine are quite impressive. However, I would like to say that the tree at Millstream Gardens [Page 28] is referred to as a cedar, but it is a pine tree that my grandfather, Elmer Tiemann, transplanted to that location.

*Mark Clark, Fredericktown*

## CORRECTIONS

In *Discovering Nature at Night*, we misidentified the Twisted Tree at Millstream Gardens Conservation Area. It is a shortleaf pine tree. It is one of the most photographed trees in the state.

In *Wondrous Wetlands* [December; Page 16], the salamander pictured on Page 19 is labeled as a marbled salamander. It is a mole salamander.



## Reader Photo

### FOX HUNT

Gay Lynn Horst of Troy captured this image of a red fox pouncing on its prey in a pasture behind her house. She was able to stand on her back deck to take the photo. "I only got the pleasure of watching this fox on two different days," said Horst. "I enjoyed watching him on his hunt for what I assume was field mice or something like that." Horst lives on 7 acres and has a 1-acre pond behind the house that attracts other wildlife like geese and herons. Rabbits, rats, and mice form the bulk of the diet of foxes. Foxes usually mate in January and February, with litters born in March or April.



## DEPARTMENT HEADQUARTERS

Phone: 573-751-4115

Address: PO Box 180,  
Jefferson City 65102-0180

## REGIONAL OFFICES

Southeast/Cape Girardeau: 573-290-5730

Central/Columbia: 573-815-7900

Kansas City: 816-622-0900

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Southwest/Springfield: 417-895-6880

Northwest/St. Joseph: 816-271-3100

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## SUBSCRIPTIONS

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Phone: 573-522-4115, ext. 3848

Address: Ask MDC, PO Box 180,  
Jefferson City 65102-0180

Email: [AskMDC@mdc.mo.gov](mailto:AskMDC@mdc.mo.gov)

## EDITORIAL COMMENTS

Phone: 573-522-4115, ext. 3847

Address: Magazine Editor, PO Box 180,  
Jefferson City 65102-0180

Email: [Magazine@mdc.mo.gov](mailto:Magazine@mdc.mo.gov)

## READER PHOTO SUBMISSIONS

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Email: [Readerphoto@mdc.mo.gov](mailto:Readerphoto@mdc.mo.gov)

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Discover more about nature and the outdoors through these sites.

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Instagram: [instagram.com/moconservation](https://www.instagram.com/moconservation)

Kids' site: [XplorMo.org](http://XplorMo.org)

Missouri Conservationist: [mdc.mo.gov/conmag](http://mdc.mo.gov/conmag)

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## KIDS' MAGAZINE

Six times a year we'll bring you eye-popping art, photos, and stories about Missouri's coolest critters, niftiest natural places, and liveliest outdoor activities. Come outside with us and XPLOR!

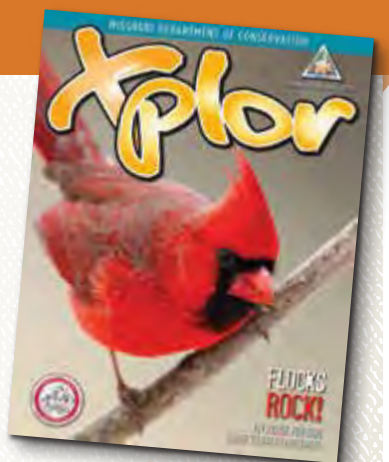
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**Editor** Angie Daly Morfeld

**Art Director** Cliff White

**Associate Editor** Bonnie Chasteen

**Staff Writer** Heather Feeler

**Staff Writer** Kristie Hilgedick

**Photographer** Noppadol Paothong

**Photographer** David Stonner

**Designer** Stephanie Thurber

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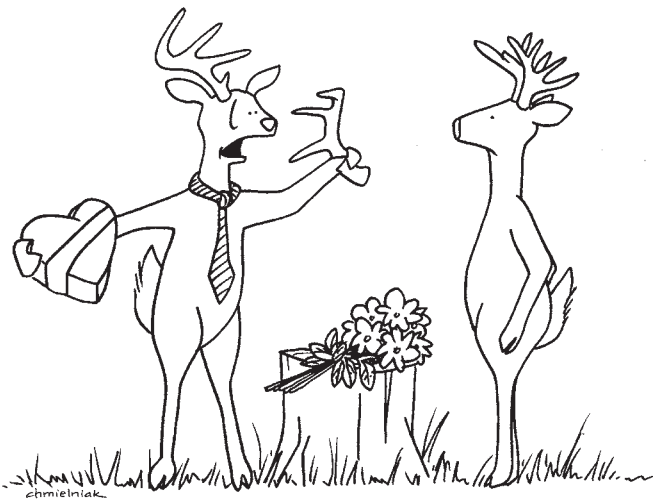
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"Oh, great . . . Just my luck to shed an antler right before my big date!"

## Agent Notes

### Reporting Wildlife Crimes

CITIZENS WHO REPORT wildlife violations to the Missouri Department of Conservation really aid in the protection of the state's resources. A community willing to report these crimes can make a huge difference in the quality of Missouri's fish, forest, and wildlife resources over time.

Reporting wildlife crimes is as simple as making a phone call. Violations can be reported through Operation Game Thief, a hotline available 24 hours a day, seven days a week. By dialing 1-800-392-1111, citizens can file a report and choose to remain anonymous. Callers also can be considered for a reward. You can also contact your local conservation agent to report suspicious activity. Phone numbers are listed by county under "local contacts" on the Department's website, [mdc.mo.gov](http://mdc.mo.gov).

To make reporting violations easier, enter the Operation Game Thief and your local conservation agent's numbers into your cell phone. Violations reported quickly increase the odds of successfully prosecuting the perpetrator.

Together, we can conserve our outdoor resources for generations to come.



*Tyler Harding is the conservation agent for St. Francois County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.*

## HUNTING & FISHING CALENDAR

| FISHING  | OPEN  | CLOSE    |
|--|---|----------|
| Black Bass from Ozark Streams  | 05/23/15  | 02/29/16 |
| Nongame Fish Giggling  |   |          |
| Impounded Waters   | All year  | None     |
| Streams  | 09/15/15  | 01/31/16 |
| Paddlefish   | 03/15/16  | 04/30/16 |
| Trout Parks (catch-and-release)  | 11/13/15  | 02/08/16 |
| HUNTING  | OPEN  | CLOSE    |
| Coyote (restrictions apply during April, spring turkey season, and firearms deer season) | All year  | None     |
| Crow   | 11/01/15  | 03/03/16 |
| Deer   |   |          |
| Archery  | 11/25/15  | 01/15/16 |
| Firearms   |   |          |
| Late Youth Portion   | 01/02/16  | 01/03/16 |
| Pheasant   |   |          |
| Regular  | 11/01/15  | 01/15/16 |
| Quail  |   |          |
| Regular  | 11/01/15  | 01/15/16 |
| Rabbit   | 10/01/15  | 02/15/16 |
| Squirrel   | 05/23/15  | 02/15/16 |
| Turkey   |   |          |
| Archery  | 11/25/15  | 01/15/16 |
| Waterfowl  | see the <i>Waterfowl Hunting Digest</i> or <a href="http://on.mo.gov/1DChcmi">on.mo.gov/1DChcmi</a> |          |
| TRAPPING   | OPEN  | CLOSE    |
| Beaver and Nutria  | 11/15/15  | 03/31/16 |
| Furbearers   | 11/15/15  | 01/31/16 |
| Otters and Muskrats  | 11/15/15  | 02/20/16 |

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information, visit [on.mo.gov/1Ulcnlw](http://on.mo.gov/1Ulcnlw) or permit vendors.

## Operation Game Thief

Help put game thieves out of business. If you see a possible violation in progress, call your county conservation agent immediately or dial the toll-free number below:

**1-800-392-1111**

All information is kept in strict confidence. Desirable information includes names of violators, vehicle description and license number, as well as the violation location.

# Ask MDC

**Address:** PO Box 180, Jefferson City, MO 65102-0180  
**Phone:** 573-522-4115, ext. 3848 **Email:** AskMDC@mdc.mo.gov



Bald-faced hornet's nest

**This bald-faced hornet's nest — about the size of a soccer ball — is in our front yard. My grandson wants to take it to school. A friend of mine said when he was a boy, his brother took one to school. When it warmed up, it was full of angry hornets. Is it safe to bring a nest like this one indoors?**

Yes, but it is a good idea to wait until after a hard frost to collect this specimen.

Bald-faced hornets aren't actually

true hornets at all. They are aerial yellow jackets, members of the genus *Dolichovespula*, a group of wasps that build round, papery nests attached to tree branches, shrubs, and even utility poles. Made from a paste of wood fiber and saliva, these nests typically have several layers of comb inside them, surrounded by an outer papery envelope.

The easiest way to collect a nest is to wait until after the wasps have abandoned it in the fall, typically after the first freeze, but before inclement

weather degrades it. A nest collected late in the year typically has only a few insects left. However, people who prefer to be cautious may want to cover it in plastic and freeze it a few days.

It's not necessary to preserve the nest with varnish. Once suspended in a dry location free from rough handling, it will last almost indefinitely.

Although these papery hives are frequently included in natural history displays, it should be noted it is not permissible to collect bald-faced hornet nests from Missouri Department of Conservation areas.

## **I'm interested in viewing minks in the wild. Where is the best place to look?**

Because minks are nocturnal, it takes patience and sharp eyesight to catch a glimpse of them in their natural habitat. They display a variety of fascinating behaviors, so it's worth the effort.

Minks are scarce in Missouri. They occur statewide, but are most common along Mississippi bottomland drainage canals. Permanent water is a basic requirement for mink, which dwell along the banks of streams, ponds, and rivers, often in or near wooded areas.

They've been known to playfully slide down snowy slopes on their bellies. They are often aggressive, attacking animals larger than themselves.

Dawn and dusk are the best times to seek them out.

## **How do gray tree frogs survive the winter?**

In Missouri gray tree frogs are normally active between April and October. As cooler temperatures arrive, these amphibians — Missouri's most-common tree frog species — burrow into loose soil under leaf litter for winter dormancy. However, a gray tree frog's liver produces a type of blood antifreeze (plasma glycerol or glucose) that prevents damage to their tissue, so they don't have to rest below the frost line.



# NEWS & EVENTS

by Kristie Hilgedick



Nine new state-record fish were caught in 2015, including this 120-pound, 8-ounce blue catfish caught on a trotline in the Missouri River by Burr P. Edde III (left) of Malta Bend.

## Big Fish Thrive in Missouri

In terms of the numbers of record fish caught, 2015 was an unusually active year for anglers. Nine new records were established — a feat that hadn't been reached since 2002.

"This year has been a great year for fishing for many reasons. We had a great spring where we received plenty of rain that kept our rivers and lakes full, giving plenty of food and numerous areas to spread out," Fisheries Programs Specialist Andrew Branson said. "Our summer was mild, which many anglers used to their advantage and fished more. So when the weather is great and more anglers get out on the water, that's when we see state records broken."

Missouri state-record fish are recognized in two categories: pole-and-line and alternative methods, such as trotlines, spearfishing, snagging, etc. To qualify, an applicant's fish must be captured by legal means from Missouri waters, be one of the listed species, and meet or exceed the current record.

Here are the record-setters:

- **Lawrence E. Dillman** of Rockaway Beach caught a 65-pound, 2-ounce striped bass with a pole and line May 21 on Bull Shoals Lake.
- **John L. Overstreet** of Fayette caught a 54-pound bigmouth buffalo while bowfishing April 17 on Pomme de Terre Lake.
- **Jacob A. Tyler** of Eugene caught a 7-pound, 12-ounce river carpsucker while bowfishing April 26 on Lake of the Ozarks.
- **Jonathan B. Randall** of Smithville caught a 9-pound, 10-ounce river carpsucker while bowfishing May 9 on Smithville Lake.
- **Matthew McConkey** of Kansas City caught a 100-pound flathead catfish on a trotline in the Missouri River Sept. 19.
- **James M. Lucas** of O'Fallon caught a 1-pound, 14-ounce skipjack herring with a pole and line Oct. 25 in Sandy Slough.
- **Andy Belobraydic III** of Richwoods snagged a 140-pound, 9-ounce paddlefish March 21 from Table Rock Lake.



- **John Burke** of Crestwood caught a 1-pound, 14-ounce gizzard shad with a pole and line Feb. 1 on Jefferson Lake.
- **Burr P. Edde III** of Malta Bend caught a 120-pound, 8-ounce blue catfish on a trotline in the Missouri River March 21.

"Fisheries biologists monitor the fish populations closely," Branson added. "Fish habitat management, length, and daily fishing limits all play an important role to ensure great fishing in Missouri."

For more information on state-record fish and the Master Angler Award, which recognizes the accomplishments of anglers who catch memorable or trophy-size fish, visit [mdc.mo.gov/fishing/state-record-fish](http://mdc.mo.gov/fishing/state-record-fish).

## Discover Nature Schools Goes to the Fair

Recognition for outstanding nature-related science fair projects is available again this year through the Discover Nature Schools (DNS) program. No extra work or travel is involved. Teachers simply email photos and a logbook of projects for judging. Winners receive ribbons, medals, or plaques for their achievements, and four state winners will receive classroom equipment used to deliver DNS at their school.

Teachers, administrators, and parents may submit entries for the DNS Science Fair competition. To qualify, students must be enrolled in a school teaching a science unit that is part of the Conservation Department's DNS. Entries must show a connection to at least one DNS activity. DNS does not have to be mentioned in the project. However, entries must meet criteria for display rules and safety guidelines listed on the Academy of Science-St. Louis Science Fair website, [sciencefairstl.org](http://sciencefairstl.org).

The competition takes place in three rounds. Round 1 is judged by teachers at participating schools. Teachers submit winning entries for Round 2 from Jan. 1 to April 1. Conservation Department education consultants judge Round 2. Winners are sent on to Round 3 by May 1, and they are judged at the Conservation Department's Central Office in Jefferson City.

The DNS Program is taught in 99 percent of Missouri school districts, and the program

continues to grow every year. To view submission criteria for the DNS Science Fair and download an entry form, visit [on.mo.gov/1XdpGg](http://on.mo.gov/1XdpGg).

## MO Hunting App Wins Governor's Award

MO Hunting — the Department's free mobile app — was selected as a winner of the 2015

Governor's Award for Quality and Productivity.

This was the Department's third award in three years, including an Innovation Award in 2014. The Governor's Award was established in 1988 to recognize excellence and innovation.

Designed to work with both Android and Apple smart phone technology, this app lets deer and turkey hunters electronically void their



## WHAT IS IT?

### Mourning Cloak Butterfly | *Nymphalis antiopa*

Mourning cloak butterflies are most frequently seen in woods. They are attracted to tree sap, decaying fruit, and moist places, only rarely visiting flowers. They are usually seen in late August to October and in April and May, but adults may appear on warm winter days. They need a body temperature of about 65 degrees to be able to fly. Most butterflies bask in sunlight to raise their body temperature, but mourning cloaks can truly shiver, rapidly contracting muscles with only minimal wing movement. This can raise their temperature 15–20 degrees in just minutes.

Adult mourning cloaks have long lifespans for butterflies, often surviving for 10 months. Adults overwinter, then mate in spring. Eggs are laid in rings on twigs of host plants, in groups of up to 200 or more. The larvae live and feed communally in a web. They pupate and emerge as adults in midsummer, feed for a time, then go dormant until fall, when they feed again before winter hibernation. They overwinter beneath loose bark and other tree cavities. The camouflaged undersides of their wings help them evade predators.

—photograph by Noppadol Paothong



Kansas City is the largest participating Missouri city in the Tree City USA program.

## Missouri Celebrates Tree City USA's 40th Anniversary

This year Missouri will support Tree City USA — an Arbor Day Foundation program — as it celebrates 40 years helping communities achieve sustainable community forests.

The program has been greening up cities and towns across America since 1976. It is a nationwide movement that provides the framework necessary for communities to care for and expand their public trees.

To be included in the program, a city must meet four national standards: form a tree board or department, adopt a tree ordinance, expend at least \$2 per capita on the planting and care of city trees, and observe and proclaim Arbor Day.

In the Show-Me State, 85 communities — representing more than 42 percent of Missourians — participate in the Tree City USA program. With 451,000 inhabitants, Kansas City is the largest participating city and Augusta, population 225, is the smallest.

Mexico is the state's longest-running participant with 36 years.

"Trees on public property outnumber trees on private land, and they bring so much value to communities and to the state as a whole," said Missouri State Forester Lisa Allen. "Strong, healthy, growing street trees increase property values, improve the environment by absorbing carbon dioxide, and decrease energy consumption by reducing the need for cooling in the summer."

A goal of the program is to help the public understand how trees work for Missourians.

Here are a few examples:

- Trees contribute positively to downtown shopping areas. Studies show people spend 12 percent more in downtowns with trees. They also shop for longer time periods and come back more frequently.
- Greener areas can have up to half as many crimes as areas with no trees or lawns. People report feeling safer in communities filled with trees.
- Recovering surgery patients with a view of nature, as opposed to a brick wall, require fewer pain relievers and leave the hospital a day sooner.

To celebrate the 40th anniversary of the national program, the Department set a new goal to add 40 additional communities to the program over the next five years. Learn more about how your community can join the program at [on.mo.gov/1RaNZ6Y](http://on.mo.gov/1RaNZ6Y).

(continued from Page 7)

permits and Telecheck their harvests. It enables Missouri hunters, anglers, and trappers to purchase, view, show, and store current hunting, fishing, and trapping permits and associated details. It also shows permits purchased during the current and previous years. MO Hunting even uploads Telecheck confirmation numbers back to the mobile device and enables hunters to view details on all deer and turkey they have previously checked.

MO Hunting is available in the Google Play and iTunes stores. Get MO Hunting and learn more about the app at [on.mo.gov/1g8g5Ah](http://on.mo.gov/1g8g5Ah).

## Order Tree Seedlings Now

Winter is prime time for planning habitat improvement projects, and the George O. White State Forest Nursery now offers more flexibility than ever in ordering seedlings for wildlife plantings.

This year, the nursery made online ordering more efficient, allowing customers to view their order histories, add or cancel species, and pay with a credit or debit card. The catalog and order form are easy to find at [mdc.mo.gov/seedlings](http://mdc.mo.gov/seedlings). Orders must be submitted by Internet, mail, or fax. The nursery does not accept phone orders. If you order by mail or fax, do not send payment with your order.

As always, the Department's nursery at Licking has a wide variety of tree and shrub species. This year's inventory includes eight conifer species, 35 hardwood species, and 29 wildlife shrubs. The nursery provides mainly 1-year-old bare-root seedlings, although a few species are 2 to 3 years old. The size of the seedlings varies greatly depending on the species. Seedlings are provided in quantities of 10, 25, or 100 trees per species.

Although the nursery accepts orders from Nov. 1, 2015, through April 15, 2016, popular species always sell out quickly. To get the plants you want, send orders as soon as possible. For questions about the online ordering process, call 573-674-3229.

## S.N.O.W.: Seeking Natural Outdoor Wonderlands

Outdoor enthusiasts know snowfall and ice only make nature more fascinating. Activities that are merely enjoyable on a pleasant day take on



## DID YOU KNOW?

*We help people discover nature and conserve it, too.*



**Searching for shed antlers is a great winter activity. Most white-tailed bucks drop their antlers now through February.**

an exhilarating edge when silvery drifts of snow overlay the world.

The Department offers a range of winter activities designed to appeal to people of all outdoor skill levels.

Eagle Days are one way to revel in winter. More than 2,000 bald eagles are typically reported around Missouri's large rivers and reservoirs.

Organized events include live eagle programs, exhibits, activities, videos, and guides with spotting scopes to help participants see eagles perched in trees, flying, and fishing. Be sure to dress for winter weather and don't forget cameras and binoculars.

Eagle Days events are set for:

- **Jan. 9**, 9 a.m. to 3:30 p.m. and **Jan. 10**, 10:30 a.m. to 3:30 p.m. at Smithville Lake Paradise Pointe Golf Course Clubhouse, north of Kansas City. Call 816-532-0174 for more information.
- **Jan. 16**, 9 a.m. to 4 p.m. and **Jan. 17**, 12:30 to 4:30 p.m. at Springfield Conservation Nature Center. Call 417-888-4237 for more information.
- **Jan. 16 and 17**, 9 a.m. to 3 p.m. at the Old Chain of Rocks Bridge, south of I-270 off Riverview Drive, St. Louis. Call 314-877-1309 for more information.

### Lots of Conservation Volunteer Opportunities Near You

If you've resolved to do more for conservation in 2016, please consider becoming a conservation volunteer. The Missouri Department of Conservation needs skilled outdoor enthusiasts to teach fishing skills, lead naturalist programs, teach hunter education, serve at shooting ranges, and help deliver conservation programs statewide. Call your regional office (find the number on Page 3) to find a local volunteer opportunity that matches your interests, skills, and schedule.

» **Discover Nature — Fishing Program.** If you're an experienced angler who loves sharing your hobby with others, please volunteer to teach fishing skills through our Discover Nature — Fishing Program. Call your regional office to learn more.

» **Missouri Forestkeepers Network.** Study and collect important information about Missouri's trees and forests. Any Missourian can join. Visit the Missouri Forestkeepers official website at [forestkeepers.org](http://forestkeepers.org) to learn more.

» **Missouri Master Naturalist.** Turn your love of nature into mastery that makes a difference. Join a local Master Naturalist chapter, register for training, and find volunteer opportunities at [extension.missouri.edu/masternaturalist](http://extension.missouri.edu/masternaturalist).

» **No MORE Trash!** Want to help Missouri wildlife? Pick up trash. Litter is not only ugly and unhealthy, but it also hurts wildlife habitat, including streams. Learn how to help at [nomoretrash.org](http://nomoretrash.org).

» **Missouri Stream Team.** Love Missouri's rivers and streams? Join or start a Stream Team, and enjoy the satisfaction of taking care of a local waterway. Visit [mostreamteam.org](http://mostreamteam.org) for details.

Find 18 more places to volunteer, including nature centers, staffed shooting ranges, and regional offices, at [on.mo.gov/ILTA7LB](http://on.mo.gov/ILTA7LB).

- **Jan. 23**, 10 a.m. to 2 p.m. at Runge Conservation Nature Center, Jefferson City. Call 573-526-5544 for more information.
- **Jan. 30**, 9 a.m. to 4 p.m. and **Jan. 31**, 10 a.m. to 3 p.m. at Lock and Dam 24 and Apple Shed Theater in Clarksville. Call 660-785-2420 for more information.
- **Feb. 6**, 9 a.m. to 3 p.m. at the Schell City Community Center, downtown Schell City, and at the Schell-Osage Conservation Area. Call 417-876-5226 for more information.

For people seeking to shake off the winter doldrums, hiking is a great way to get some

exercise. With 1,186 conservation areas owned or leased by the Missouri Department of Conservation, every part of the state has something to offer winter walkers.

While hiking, one way to spend the time is searching for shed antlers.

Shed antlers are most likely to be visible on the forest floor on rainy days, when moisture makes the white bones shine. Most white-tailed bucks drop their antlers from late December through February. Good places to search are near fence lines and along deer trails — anywhere bucks are likely to stay for a few hours as they browse for food and hide from predators.

(continued from Page 9)

According to the *Wildlife Code of Missouri*, it's permissible to collect shed antlers from Department lands. However, if the antlers are still attached to the skull plate, collectors need to contact their local conservation agent within 24 hours to obtain possession authorization.

### Website Redesign Revealed

This winter the Department plans to roll out the second phase of an extensive website redesign effort, with the rejuvenation of its online *Discover Nature* section.

"With assistance from public surveys and user testing, this section is being completely retooled to provide a better user experience," said Chris Cloyd, digital communications manager.

The new section, which will be available at ***mdc.mo.gov***, will feature numerous improvements, including a revamped *Field Guide* and retooled *Places to Go* section.

Not only will the *Field Guide* showcase more color images of Missouri flora and fauna, it also will make it easier for the public to identify Missouri's native species.

The upgraded *Places to Go* section will make it easier for members of the public to learn about the Department's conservation areas, natural areas, hatcheries, nature centers, shooting ranges, and more. It will allow the public to explore these areas via Google Maps.

Making the Department's website more mobile-friendly is a key goal, Cloyd said.

Two other popular sections, *Hunting/Trapping* and *Fishing*, were redesigned and launched last summer. The next phases the public can expect are upgrades to the *Your Property* and *Education* sections.

### Give Back to Nature

Once the presents have been opened and the feast has been eaten, there's one last gift you can give to your local fish and wildlife habitat this Christmas season.

Fisheries Regional Supervisor Christopher Kennedy said this time of year brings an easy opportunity to give fish a place to hide from predators. The best thing to do with a live Christmas tree is to recycle it by placing it at the bottom of a stream or pond.



### Renew Permits Online for 2016

Many hunting and fishing permits expire at the end of February, including 2015 permits for small game, fishing, trout fishing, and combination hunting and fishing permits. Now is the time to renew those permits so as not to miss outdoor opportunities in the year ahead.

With three options, buying permits is easier than ever. You can buy permits by visiting ***mdc.mo.gov*** and clicking on "Buy Permits." This online option lets hunters, trappers, and anglers buy permits at home or on any computer and print them immediately.

All sport-fishing and sport-hunting permits are available online, along with trapping permits and the Apprentice Hunter Authorization. A \$1 convenience fee is added to the online permit transactions. That fee covers all permits purchased at one time.

Permits purchased online are printed on regular printer paper and can be saved on a computer, allowing you to print replacements if permits are lost or destroyed. Permits may not be shared, and additional copies of a permit do not provide additional valid permits for the buyer or others to use.

Commercial permits and lifetime permits can be purchased only through the Department's Central Office by calling 573-751-4115. Allow up to 10 days for mail delivery of permits purchased by telephone. Phone purchases are subject to a \$2 convenience fee.

Low permit cost is one more reason Missouri is a great place to hunt and fish. Missouri residents pay \$12 for an annual fishing permit, while residents in the eight neighboring states pay an average of \$20.80. Missouri's \$17 Resident Any-Deer Permit is a bargain compared to an average of \$46.63 for equivalent privileges in surrounding states.

The addition of a dead tree to fish habitat is akin to humans furnishing their homes: It gives fish shady resting places and the cover they need to escape.

"Small fish need vegetation and brush to help them hide from predators," Kennedy said. "In contrast, predator fish, like crappie and bass, sometimes hide behind a limb to wait for an opportunity to grab its prey."

Multiple large trees make the best fish habitat. Kennedy encourages neighbors to get

together and combine efforts by recycling their trees together in one lake. To place trees in a pond or lake, they'll need to be anchored with concrete blocks. Water depth should also be considered. The best depth is 8 feet in the water, with the trees placed in a row.

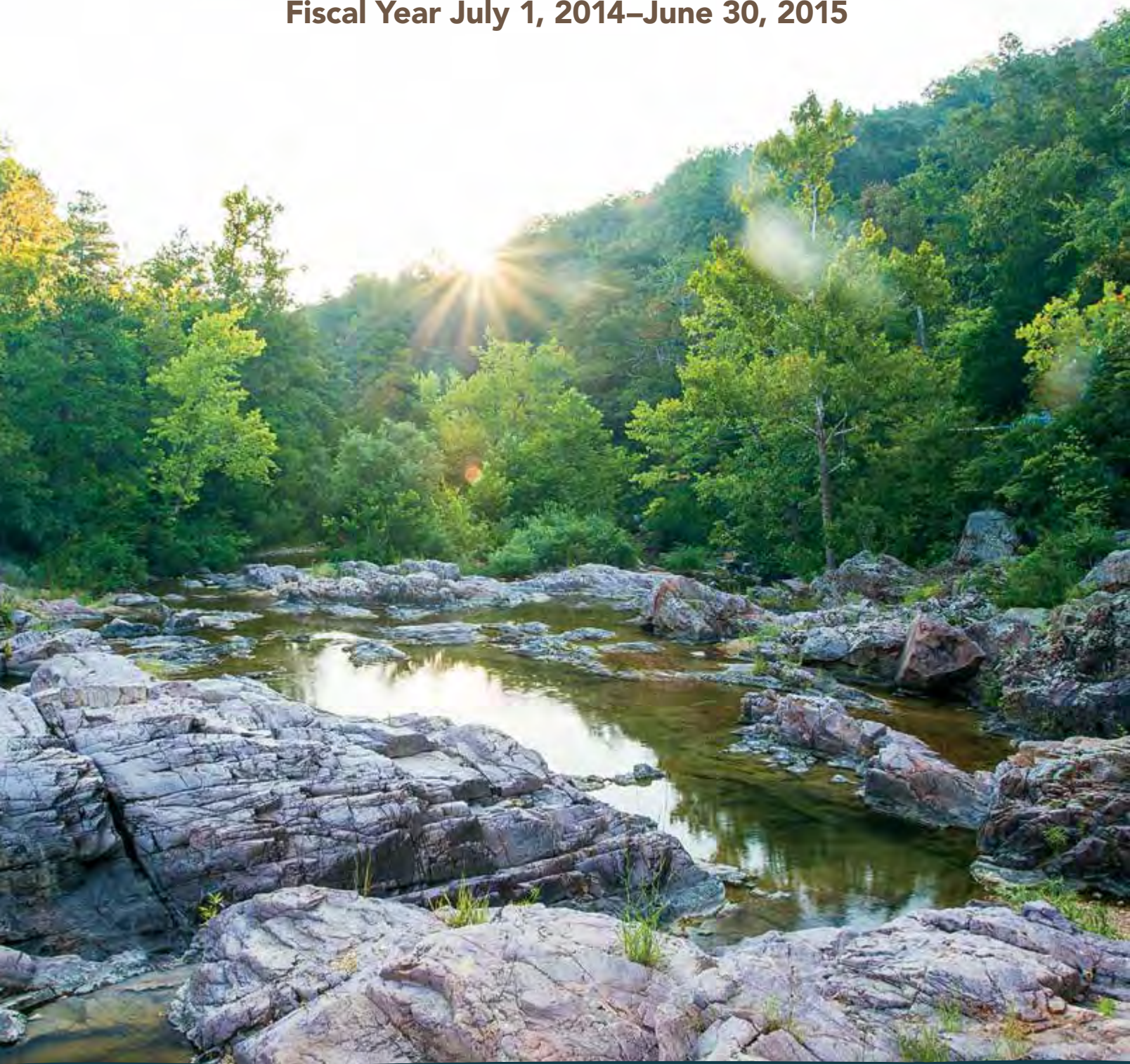
Other ways to recycle live Christmas trees include placing them in a backyard to offer cover for wildlife or under bird feeders to provide nesting locations in the branches. Live trees can also be shredded and chipped for mulch.





# Annual Review

**Fiscal Year July 1, 2014–June 30, 2015**



*Mill Mountain Natural Area, Shannon County*

PHOTOGRAPH BY NOPPADOL PAOTHONG



# A

ANNUAL REVIEWS ARE ALL about the numbers. They show in figures, dollars and cents, percentages, and decimals all the work an organization has done in the past year. While this annual review summary does highlight the Department's key statistics from July 1, 2014, through June 30, 2015, we've also tried to tell the conservation success stories not always reflected through numbers.

These success stories are made possible by Missourians who care deeply about conservation and dedicate dollars to ensure a conservation legacy for future generations. The Department works diligently to carry out our mission of protecting fish, forests, and wildlife in the state and to help people discover nature. Thank you for partnering with us year after year on that mission. These are your success stories, too.



Sedge wren on gray-headed coneflowers at Pawnee Prairie Conservation Area, part of the Grand River Grasslands Priority Geography Area



## Missouri State Budget

A. Conservation.....0.6%

**The Conservation Department represents less than 1 percent of the total state budget and receives no state general revenue**

B. Natural and Economic Resources.....3.7%

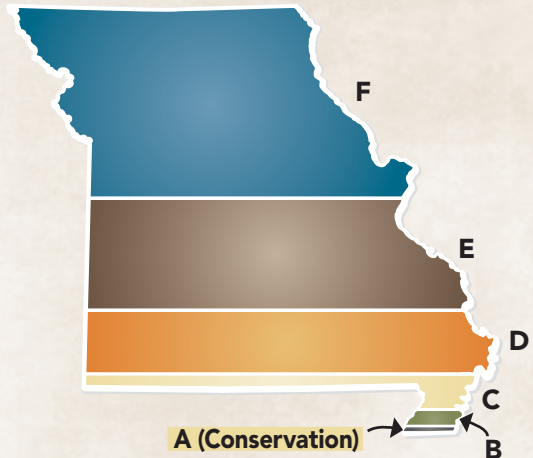
C. Transportation.....8.3%

D. Government Services.....15.4%

E. Education.....27.1%

F. Health and Social Services.....44.9%

**Total State Budget.....\$26,028,776,360**



## Receipts

A. Conservation Sales Tax.....\$110,528,741

B. Permit Sales.....\$33,095,119

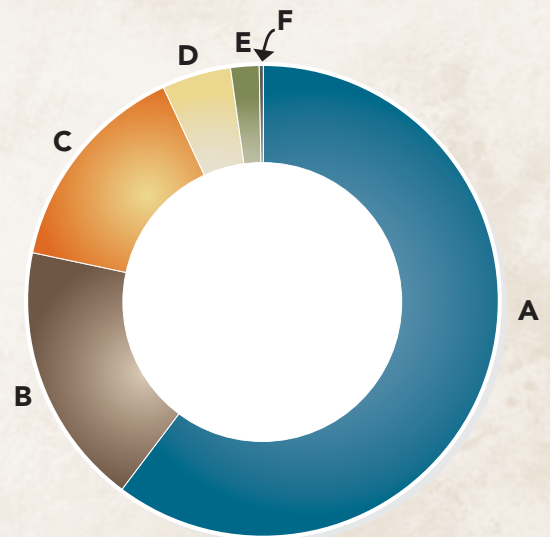
C. Federal Reimbursements.....\$26,910,971

D. Sales and Rentals.....\$8,729,217

E. Other Sources.....\$3,458,705

F. Interest.....\$368,595

**Total Receipts.....\$183,091,348**



## Disbursements

A. County Assistance Payments.....0.88%

B. Capital Improvements.....9.81%

C. Information Technology.....7.78%

D. Fisheries.....7.98%

E. Forestry.....10.40%

F. Wildlife.....12.54%

G. Outreach and Education.....9.50%

H. Private Land Services.....4.85%

I. Protection.....9.09%

J. Resource Science.....7.61%

K. Regional Public Contact Offices.....1.17%

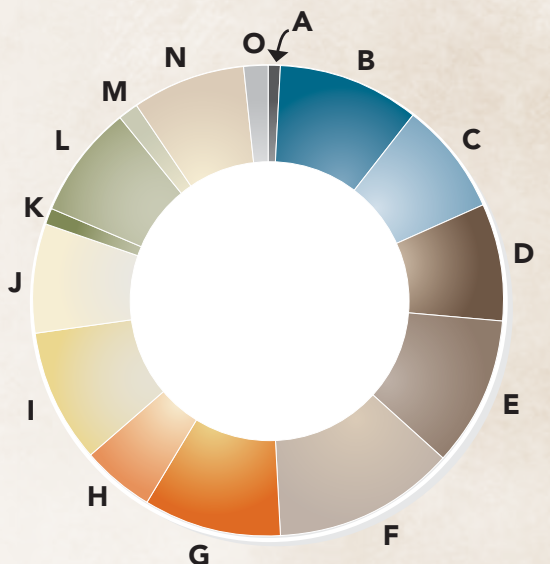
L. Administrative Services.....7.69%

M. Human Resources.....1.37%

N. Design and Development.....7.76%

O. Administration.....1.57%

**Total Disbursements.....100%**





## Healthy Fish, Forests, and Wildlife



### The Topeka Shiner Shines

In October 2014, Department fisheries biologists carefully poured a bucket of approximately 9,800 Topeka shiners into a clear stream on the Union Ridge Conservation Area in northeast Missouri. Hope filled their eyes and they cheered as the endangered minnow quickly darted off to its new home. As part of the restoration stocking effort to aid this federally endangered minnow in its native habitat, the Department also released 50 orange spotted sunfish along with the Topeka shiners, because shiners only lay eggs in active sunfish nests.



### The Call of the Wild: Elk in the Ozarks

The unique sound of elk bugling through the crisp air is another sign of fall at Peck Ranch and Current River conservation areas. The Department began a five-year elk research project to help biologists better understand how elk survival and reproduction differ each year. As the elk herd expands, the Department continues to work with landowners to improve habitat acres around the conservation areas. This habitat work offers big rewards for landowners, as well as unique opportunities, as one landowner experienced firsthand, waking up and seeing nearly 75 elk out his window.



Bull elk

### It Takes a Team to Fight Wildfires

The Conservation Department worked with fire departments across Missouri to suppress 2,923 wildfires that consumed 22,044 acres. Two Department programs improve fire-protection efforts at the local level. The Excess Property program provides equipment and MDC staff provide training, which helps rural fire departments respond more effectively and efficiently to fires throughout the state. The Department, in cooperation with the U.S. Forest Service, provided \$393,547 in matching Volunteer Fire Assistance grants to 189 rural volunteer fire departments this fiscal year. The money is used to purchase personal protective gear and firefighting equipment, which is used in fighting wildfires as well as structure fires. Over the past 30 years, the Department has provided more than \$7.5 million to rural fire departments.

### Science-Based Conservation

The Department uses a science-based approach to managing fish, forests, and wildlife in the state, and research projects are one of the ways the Department obtains critical information. For example, the Department is conducting a five-year wild turkey research project to monitor populations in several counties across the state. This research includes banding and putting radio transmitters on wild turkeys to determine gobbler and hen survival. The research will also help determine what proportion of the banded wild turkeys is harvested by hunters. The results will inform wild turkey management decisions and sustain opportunities for all Missourians to view this majestic bird in the wild.



Wild turkey

### DEER STUDY

Department biologists are learning more about white-tailed deer survival, reproduction, and movement as a five-year research study progresses. In partnership with the University of Missouri–Columbia, the new study uses computer, telemetry, and satellite technology to track deer to provide herd trends statewide for both agriculture and forest areas. Researchers are currently tracking 90 collared deer using GPS technology to gather satellite readings on deer movement, and biologists are able to download that data to computers. They can map each collared deer's travels in fields and forests, or if movement stops, note mortality.



"I like to think our wetland restoration efforts are more along the lines of 'rehabilitation.' We aren't attempting to put back everything that was here historically, we are trying to recover the parts of the system so that it can function properly as we move forward."

—Frank Nelson,  
Conservation Department  
resource scientist



Duck Creek Conservation Area

## Manage Lands in Public Trust

### Wetland Conservation Area Renovations

In October 2014, the Department and Ducks Unlimited invited the public to a dedication of Duck Creek Conservation Area, located in southeast Missouri, to celebrate renovations completed to date on the wetland area. The event, however, marked a bigger celebration — the ambitious partnership established 10 years earlier to rehabilitate and enhance five of the Department's oldest wetland conservation areas (Schell Osage, B.K. Leach, Montrose, Duck Creek, and Fountain Grove). Many of these wetland areas are celebrating their 50th birthdays, so these renovations are critical to the long-term success of the areas and for fostering the next generation of waterfowl hunters.

### FERAL HOGS

The Department continues to work with partners and landowners to eradicate feral hogs from the landscape. We have learned from other states and through trends in Missouri that hunting does not help to eradicate hogs. The Department and other partners have increased feral hog eradication efforts this year through trapping, and they are asking citizens to report feral hog sightings or damage.

### Managing Public Land for Missourians

The Department manages 955 properties, totaling nearly 1 million acres statewide, for the purpose of restoring and conserving fish, forest, and wildlife resources and providing outdoor opportunities for Missourians. This year, Department staff conducted habitat management activities on nearly 185,000 acres of public land, including wetlands, woodlands, forests, savannas, croplands (through permittee farmers and food plots), grassland, prairies, old fields, and glades. Public review of conservation area plans also offers an opportunity for Missourians to comment about management on a specific area. In fiscal year 2015, staff posted 69 area plans, covering 115 areas, online for public comment.



Pale purple coneflowers at  
Golden Prairie Natural Area



## Sound Financial Accountability

### New Electronic Nursery System

The state nursery annually grows and distributes close to 3 million seedlings of more than 60 species of trees. These seedlings, planted on both public and private lands statewide, include trees and shrubs suitable for reforestation and wildlife habitat restoration. With the nursery filling more than 10,000 orders annually, an electronic ordering system was implemented this year to integrate the inventory tracking and seedling delivery. This new technology also allows customers to pay for seedlings online.



## Citizen Involvement/Education

### Helping Kids and Families Discover Nature

Helping kids and families discover nature is a key part of the Department's mission. Last year, the Department held six Discover Nature Girls Camps for girls ages 11–15 to get young women excited about the outdoors. Camp classes include hunter education, archery, canoeing, fishing, tree-stand safety, and Dutch oven cooking. The Department's Discover Nature Schools conservation education curriculum, which is used in 99 percent of Missouri school districts for grades pre-K through 12, help teachers engage students with hands-on, outdoor learning. In addition, the Discover Nature — Fishing program helps kids and families have fun in the outdoors by learning to fish. Last year, more than 5,000 people learned to fish for the first time through this program.

### Archery in the Schools Program Builds Champions

Missouri National Archery in the Schools Program (MoNASP) not only promotes education, self-esteem, and physical activity for kids in grades 4–12, but it also builds national champions. In May, Sarcoxie R-II fifth-grader Max Wangler took first place at the National Archery in the Schools Program/International Bowhunting Organization 3-D Challenge national tournament in Kentucky. He received the top score for all Elementary Division shooters. The Department provides MoNASP grants to schools for equipment, as well as free teacher and staff training for those administering the program. More than 135,000 Missouri students from 500 schools participate in MoNASP.



More than **1 million** people visit Department of Conservation nature centers, education centers, and visitor centers each year.



## Community Conservation in Urban Areas

Conservation in urban areas educates many Missourians and exposes them to natural habitats that may not otherwise be available. The Community Conservation Grant Program awarded \$100,000 to five urban habitat restoration and monitoring projects in the St. Louis metropolitan area, including urban native bee monitoring, prairie reconstruction, and woodland restoration. The Tree Resource Improvement and Maintenance (TRIM) cost-share program continues to receive interest from communities of all sizes across the state. The program provides reimbursements of \$1,000–\$10,000 to assist government agencies, public schools, and non-profit groups with trees on public lands. In FY15, the Department funded 48 projects with nearly \$500,000 spent on these community projects.



### ROD AND REEL LOANER PROGRAM

The Department makes fishing more accessible through the Rod and Reel Loaner Program. The program, which is available in 72 locations across the state, allows individuals to check out fishing poles and tackle boxes for free. The fishing poles are equipped with standard spin-cast reels. The tackle boxes are supplied with hooks, sinkers, and bobbers for basic fishing opportunities. For a loaner location near you, visit [on.mo.gov/1f4bgX0](http://on.mo.gov/1f4bgX0).

## Helping Missouri Landowners with Key Habitat Conservation

The Department received \$1.3 million in federal grant money from the U.S. Department of Agriculture to help private landowners in Missouri improve grasslands, glades, and woodlands for both wildlife habitat and agriculture production. The Department will match the federal grant money over the next five years through its existing Private Land Services Program, which provides expert advice and assistance to more than 29,000 private landowners in Missouri each year.



## Engage Partners at All Levels

### Feeding the Hungry through Share the Harvest

While hunters often share their deer photos each season with family and friends, they rarely take credit for the gift that comes next — helping to feed hungry Missourians through their deer meat donation. Through the Share the Harvest program, made possible by the efforts of the Department, Conservation Federation of Missouri, local charitable organizations, and local meat processors, more than 3 million pounds of deer meat has been donated to local food pantries since the program started in 1992. In 2014, almost 4,000 hunters donated 213,443 pounds of venison to the less fortunate in Missouri. Hunters can donate all or part of their deer to Share the Harvest.



### Community Fisheries Assistance

Through the Community Assistance Program and other partnership programs, the Department enters into agreements with cities, counties, state and federal agencies, businesses, foundations, schools, and colleges to cooperatively develop and maintain facilities for anglers and boaters at lake and stream areas. Currently, there are 117 partners in the cooperative management of 166 public lakes, 43 stream access areas, four lake access areas, 10 aquatic education ponds, and 15 lake access facilities. New agreements were made with the cities of Unionville, Bethany, Canton, Fayette, Holden, Lawson, and Macon this fiscal year.



## Top Conservation Stories of Fiscal Year 2014–2015

### MO Hunting App

The Department developed the MO Hunting mobile application, which enables Missouri hunters, anglers, and trappers to purchase and view annual permits. Deer and turkey hunters also can Telecheck their harvests using the app, which provides an electronic permit stored on your mobile device. New regulations consider this to be a valid permit. The MO Hunting app had more than 27,000 downloads in FY14–15.

### Listening to Missourians

Delivering excellent public service means listening to and understanding what Missourians say about conservation programs and services. In fiscal year 2015, there were 129 public engagement opportunities, including deer management and chronic wasting disease meetings, annual hunter surveys, conservation area plan comment periods, regulations committee comments, and unstaffed shooting range surveys.

**"Conservation pays. Missouri today offers world-class outdoor adventures, and there is little doubt conservation enhances our quality of life."**

**—Robert L. Ziehmer,  
director**

### Shooting Range Renovations

The Department began construction of a new, state-of-the-art staffed shooting facility at Busch Shooting Range in St. Charles. The new range will incorporate the most current national shooting range design standards, including numerous improvements for user convenience, safety, and reduced waiting times. Originally built in 1975, the Busch range sees more than 40,000 shooters annually. The Department also completed major renovations at the unstaffed Rocky Fork Lakes Shooting Range in Boone County, including new pistol and rifle ranges, re-facing of backstops, and ADA-accessible parking.

### State Record Fish

Several Missouri anglers made the record books this year for their big catches in Missouri lakes and streams, including new state records for gizzard shad, blue catfish, paddlefish, striped bass, bigmouth buffalo, and river carpsucker.

### Chronic Wasting Disease

There were 11 new cases of chronic wasting disease found in deer harvested in Macon, Adair, and Cole counties, with Cole County being the first case of the disease found outside the Department's six-county CWD management zone (Adair, Chariton, Linn, Macon, Randolph, and Sullivan counties in northern Missouri).

### Lake Sturgeon Success

Three decades of lake sturgeon restoration efforts by the Department came to fruition when staff confirmed the fish, nearly extinct within the state, are once again naturally reproducing in the Mississippi River near St. Louis. "We've been stocking lake sturgeon for 30 years, and our highest priority was to establish a self-sustaining population," said MDC River Systems Ecologist Quinton Phelps. "This confirmation is at least the beginning of a self-sustaining population."

Lake sturgeon







# ANIMAL DETECTIVE

**With a little time exploring  
outdoor Missouri, you can become  
familiar with the tracks and signs  
to solve mysteries of the wild**

**BY TOM R.D. MEISTER**

January 2016 Missouri Conservationist 19

**T**HE PHONE WAS RINGING WHEN I got to my desk. I picked up the receiver, and almost before I could say — “How may I help you?” — a panicked voice on the other end shouted, “Yes! We just had our yard re-sodded, and something has peeled back the surface of our sod like a rug! Our front yard has been completely destroyed! Help!”

As a wildlife damage biologist, I am used to these types of calls. I work with the public, answering questions and solving wildlife problems. In order to solve a possible wildlife mystery, I must properly identify the offending animal. This usually involves some detective work, like searching for tracks in the mud, snow, or sand. It also involves investigating damage to land and bodies of water, as well as looking for a feather, piece of fur, or even droppings, also known as scat.

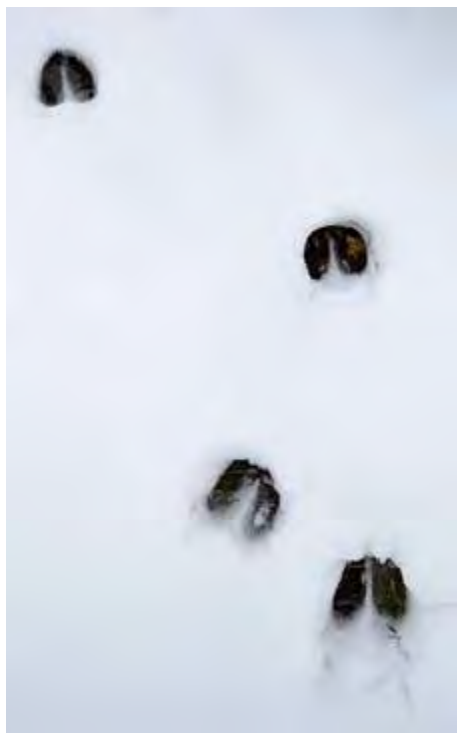
### **We Have a Mystery to Solve**

Let’s return to the frantic caller whose yard had been destroyed by a mystery animal. The facts of the case included an urban yard damaged in the nighttime hours.



**Signs of a rabbit killed by a coyote.**

The turf was rolled back, and the perpetrator foraged in the dirt underneath. What animals live in urban habitats? Coyotes, deer, skunks, and raccoons, to name just a few. To narrow it down further, the tracks had to be examined. Did they have toes? If so, how many? Turns out the animal in question had five toes on both the front and hind feet. That eliminates the deer, which has two toes, and the coyote, which has four toes. That leaves us with the skunk and the raccoon. Both forage at night,



**Snow, mud, and sand are all surfaces on which you are likely to find an imprint left by an animal. From left: deer tracks in snow, feral hog tracks in mud, and raccoon tracks in sand.**





**Other clues besides tracks can help identify an animal. White-tailed deer tear leaves and stems from plants, sometimes leaving ragged ends behind.**

the time the crime was committed. But which has the dexterity needed to peel back turf? That's right — the raccoon. Mystery solved.

Many years of education and experience have honed my ability to identify an animal by its track. By taking some time exploring outdoor Missouri, you, too, can become an animal detective.

## **Best Places to Look for Tracks**

Snow, mud, and sand are all surfaces on which you are likely to find an imprint left by an animal.

Snow is an excellent medium on which to find tracks. Depending on the texture of the snow, the quality of the track can vary. Wet snow is the best at capturing animal tracks, leaving fine details behind. Snow also allows for tracks you can follow, providing clues as to what the animal was doing, such as searching for food, fleeing from a predator, or just playing in the snow.

Mud along the bank of a pond or creek records delicate details of a track and is a good place to look year-round. Most animals go to water to drink, and many species use

## **Tips for Becoming an Animal Detective**

### **Make It a Hobby**

Illustrations can help in distinguishing tracks in the field, but reading animal tracks and signs is a skill that improves with practice. Tracks of the same animal can look completely different on various surfaces such as snow, sand, mud, or dust.

### **Gear Up**

Carry the following gear when heading outdoors:

- Smartphone or camera to record pictures of tracks and signs
- Field guide that includes information on tracks, scat, nests/burrows, scent marking, distinct calls and sounds, food scrapes/other evidence of feeding, and other helpful details
- Missouri Department of Conservation brochures and fact sheets
- Notepad, pencil, and measuring tool

### **Be Observant**

If you come across a track, take note of the following:

- Size
- Claw/nail marks
- Pad marks and shape of pads
- Number of toes per foot
- Marks made by toe webbing
- Marks made by dragging belly or tail
- Shape and size of hooves

Also note the distance between tracks and the overall pattern. A few questions to keep in mind:

- Do the tracks follow in a fairly straight line, or do the left and right footprints point distinctly away?
- Does the animal appear to have walked, hopped, or run from place to place? Keep in mind that many animals walk in such a way that their hind prints appear ahead of their fore prints.

### **Get Outdoors and Explore**

Winter is a great time to get outside and explore a conservation area, especially after a snowfall. By learning a few new skills and asking yourself some key questions, you are ready for the investigation to begin.

streams or creeks as travel corridors. Mink, otters, and raccoons seek food near water, while beavers and muskrats build their dens in the water. These animals leave tracks everywhere along the bank, and the mud captures the details of each animal's journey.

Out of the three surfaces, sand is the least reliable. Sand typically is too loose to hold a good track. When it comes to sand, the best place to find wildlife tracks is near the water's edge. The sand will stay wet, allowing for pattern/



## Tracks

### Raccoon

Raccoons' feet are rather long and slender, with hairless soles. Raccoons prefer timbered habitat near water. They also may be found in urban and suburban areas. Dens are made in hollow trees, caves, rocky crevices, abandoned woodchuck burrows, and many other places. Raccoons eat both plant and animal matter. This includes persimmons, grapes, Osage oranges, blackberries, grasses, corn, acorns, pecans, and other nuts. They also eat crayfish, clams, fish, snails, a wide range of insects, frogs, snakes, bird eggs, mice, squirrels, rabbits, and more.



### Beaver

The beaver has webbed hind feet. In Missouri, beavers live in and along streams, rivers, marshes, and small lakes. In spring and fall, beavers eat woody and nonwoody vegetation. In summer, mostly nonwoody plants are consumed, while in the winter, mostly woody foods are eaten. Woody foods include new twigs, bark, and new bark growth of a variety of trees and woody vines. These trees and vines range from willow and cottonwood to oaks, hickories, sycamores, and wild grapevines. Nonwoody foods include corn, pond lilies, watercress, and many other plants.



### Feral Hog

Feral hogs, while not wildlife, forage heavily on acorns and compete directly with native species such as deer and turkey for this important fall food. They also commonly eat the eggs of ground-nesting birds as well as anything else they encounter. This includes reptiles, amphibians, and small mammals. Feral hogs are also known to kill and eat a variety of wildlife, including deer fawns.

The key point in distinguishing a hog track from a deer track is the rounded or blunt tip of the toes. The toes of a hog track on a firm surface tend to be more splayed than a deer track. A hog track also appears rounded or square when compared to a deer track of similar width. Deer tracks in contrast appear heart shaped and have more pointed or sharply tipped toes. The presence of dew claw marks with feral hog or white-tailed deer tracks is not an indicator of sex as commonly thought. Dew claw marks associated with any hog or deer track simply means the animal was running or stepping on a soft surface.



### Striped Skunk

Striped skunks prefer forest borders, brushy field corners, fencerows, and open grassy fields broken by wooded ravines and rocky outcrops where permanent water is nearby. They have also adapted well to urban and city life. The den of a skunk is usually in the ground but occasionally is located in a stump, refuse dump, sewer system, rock pile, crevice in a cliff, farm building, woodpile, or haystack. Striped skunks forage most of the night, eating plant and animal foods. In spring and summer, insects, including bees, wasps, and larvae, are their preferred food. Skunks also consume many mice and rats, moles, shrews, ground squirrels, young rabbits, and chipmunks.

Skunk tracks look like domestic cat prints, except they show claw marks and five toes rather than four. Unlike cats, skunks can't retract their claws, so each of their toe pads has a claw mark in front of it. Skunk tracks are also usually staggered, unlike domestic cat prints, which are often on top of each other. Striped skunk tracks average 2 inches long by 1 inch wide. The tracks of spotted skunks are similar, but smaller. The long nails of the front feet are the skunk's identifying feature.



### Muskrat

This medium-sized mammal has short front legs with small feet and stronger hind legs with large feet. Muskrats are semiaquatic, living in marshes, sloughs, streams, rivers, ponds, and lakes. Muskrats dig homes in a stream or pond bank or build large houses out of vegetation in the shallow water. In marshy areas, muskrats eat rootstocks, stems of cattail and three-square bulrush, and the seeds of lotus. In other areas of the state, white clover, corn, and bluegrass are preferred. Muskrats living along Ozark streams eat freshwater clams, snails, crayfish, fish, frogs, and aquatic plants.



### Coyote

Coyotes occupy almost all Missouri habitats from urban and inner city to semi-open brushy country, along timber edges, and in open farmlands. Rabbits and mice make up almost two-thirds of the coyote diet. The rest of their diet is from prey, carrion, and plants such as persimmons. Coyotes typically walk or trot in an alternating pattern — less common gaits include the two-print trot and a lope or gallop in a four-print pattern. Oval tracks are 2.5 to 3.5 inches long, and usually show foot pads and claw marks for at least the front two toes. Trails may meander, but are often straight-line routes.





track identification. Since sand does not hold tracks as well as other surfaces, an animal detective must fall back on knowledge of habitats — and which animals live in that particular area.

## Interpreting Tracks and Other Signs

Once you have spotted a track, you may need to gather other clues to positively identify the animal that left it.

First, follow the tracks. Where do they go? Do they lead to a tree and stop, or do they lead to a rock or brush pile? Do they lead in a straight path or do they meander? Do they follow an established trail made by other animals? The answers to these questions could mean the difference between a positive and false identification.

Next, look for distinct cuttings or markings on plants and trees nearby. Beavers gnaw at the base of trees, leaving piles of wood chips on the ground. Deer tear leaves and stems from plants, sometimes leaving ragged ends behind. Male deer rub their antlers on small trees in late summer to remove the velvet covering from antlers. Rabbits clip vegetation in a clean diagonal cut within a few inches of the ground. Feral hogs rub their bodies on trees, leaving behind mud and hair in a band that completely encircles the tree. Skunks and raccoons forage in fields and yards in search of beetle larvae and earthworms. These are just a few examples of how animals interact with their surroundings and the clues they leave behind.

Finally, look for scat, which can be an important discovery. It can reveal what the animal was eating. If the food source is evident, you may be able to track the animal to a certain location based upon that information. The food source can also narrow down the animal you are tracking. For instance, if the scat shows seeds, bones, fur, or insect parts, then the animal is most likely an omnivore — one that eats everything. Omnivores are animals such as raccoons, fox, or coyote. The location of scat is helpful, too. Some animals defecate in prominent places, such as on logs, on top of rocks, or in the middle of a trail, to mark their territories.

When it comes to solving wildlife mysteries, the more you know, the more successful you'll be. The best way to learn about Missouri's wildlife is in the wild. ▲

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**Thomas R.D. Meister** has worked for the Conservation Department for 18 years as a naturalist, interpretive programs supervisor, and, currently, as wildlife damage biologist helping Missourians solve conflicts with wildlife. He lives on the Bourbeuse River and enjoys fishing, canoeing, and exploring our state's resources.



Look for distinct cuttings or markings on plants to help identify animals. Beavers gnaw at the base of trees, leaving piles of wood chips on the ground.





A monarch caterpillar crawls on a butterfly milkweed plant. Milkweeds are the primary plant on which monarch butterflies lay their eggs, and the only plant the larvae eat once they hatch.

Photograph by Noppadol Paothong





**RECENT CONCERN FOR DECLINING** monarch populations due to habitat loss — both here and on their wintering grounds in Mexico — has generated much interest in growing milkweeds, the primary plant on which monarch butterflies lay their eggs. Once the larvae hatch from the eggs, they only eat milkweed and a closely related vine, making these native plants quite popular. However, the benefits of planting milkweeds extend well beyond simply providing leaves for monarch caterpillars to eat.

Milkweeds provide resources for many species. Their flowers are visited by a constant trail of nectar-feeders and are often covered with a host of butterflies. With 18 species of milkweed native to Missouri, they have adapted to most habitats in the state — from wetlands to glades — so finding one to suit your local conditions is fairly easy. While some milkweeds look nondescript, all provide valuable nectar to many species and serve as hosts to monarch larvae. And many are finally being recognized for their ornamental qualities in landscaping.

Growing milkweeds from seed is not as simple as planting many of the more familiar annuals. Milkweeds do not rapidly grow from seed and flower in the same year like annuals. Rather, they are perennials that live for decades, so expectations for their first blooming vary. They have different requirements for their seeds to germinate and plants

**By growing  
milkweeds,  
you can help  
the monarch  
butterfly  
and other  
important  
pollinators**

**BY NORMAN MURRAY**

# HOME GROWN MILKWEEDS



to become established, which make them a bit more challenging. Since harvesting the seed is labor-intensive, it is expensive. Simply throwing seeds into a flower bed or grassy habitat is likely to result in disappointment and wasted money. However, milkweeds can be established from seed if you follow some basic rules.

## Germinating Native Seeds

### *Wake Up Call*

Most native wildflower seeds are dormant when they fall from the seed head, usually in late summer or fall. If they are stored in a warm, dry environment, like your house, and planted in the spring, they will remain dormant and fail to germinate. Instead, native plant seeds require a period of 30 to 60 days, depending on the species, of cold, damp contact with soil to stratify or “awaken” so they will germinate.

## Planting Seeds Directly in Soil

### *Bare Soil*

For new plantings, site preparation is imperative. This means providing weed-free bare soil. This may require multiple applications of herbicide to ensure tough perennial vegetation is killed, allowing germination of native seeds to occur. If you plan to sow seed into an existing flower bed or large planting, you need to treat the area with extensive weeding, raking, or a fall prescribed burn so bare ground is available and the seed has a chance to germinate.

Broadcast the seeds onto the soil surface during the winter — January and February are prime months. Aim for about 24 seeds per square foot. This is far more milkweeds than are likely to grow, but the extra seed helps guarantee success. Tossing seed on top of snow is also a good technique, as the contrast with the white snow allows you to see where you’re planting and the melting snow seats the seed into the soil. If planting a mix that includes small seeds, you may want to blend it with sand or potash fertilizer to add bulk as a carrier to evenly distribute the seed, so it does not blow away as easily.

## Pollinators

Many species other than monarchs will use your milkweeds, especially while they are flowering. Their abundant nectar supplies attract great varieties of insects, including bumblebees, sweat bees, plume moths, clearwing moths, wasps, butterflies, and skippers. These pollinators in turn attract visits by predatory insects, spiders, and birds attracted by the draw of an easy meal.

Unlike many flowers, milkweeds’ pollen isn’t easily accessible to insects. Rather, their pollen is held in unique bola-shaped structures — two pouches on the ends of a filament — hidden in narrow slits. When an insect’s leg slips into these structures, the pouches wrap around the leg and pollen gets pulled out as the insect struggles to free its leg. Interestingly, these flowers are so strong that occasionally insects are trapped when they are not strong enough to pull their leg free.

Of the 18 species of milkweed native to Missouri, seven are commonly available commercially and are frequently used in landscaping. These more readily available species are common, Sullivant’s, whorled, swamp, butterflyweed, purple, and spider (or green) milkweeds.

**Common and Sullivant’s milkweeds** are somewhat similar, having fragrant, pinkish flower clusters, growing 3 to 4 feet high, and developing colonies from underground stems. Sullivant’s milkweed likes wetter soils than common milkweed and both do best in full sun.

**Whorled milkweed** also spreads with underground stems but is a much smaller plant, only growing 1 to 2 feet in height. It has very narrow leaves that surround the stem and greenish-white, fragrant flowers. It enjoys dry or average soils and full sun or partial shade.

**Swamp milkweed** prefers wet soils, but will grow in average soils. It’s shorter-lived than other milkweeds. This species has large displays of pink flower clusters, grows to 3 or 4 feet in height, and prefers full sun.

**Butterflyweed** grows in average to dry soils and produces bright shows of orange to red flower clusters, growing about 2 feet in height. It does best in full sun.

**Purple milkweed** grows best in light shade and produces rich purple flower clusters. It grows about 3 feet high in dry to average soils.

**Spider, or green, milkweed** has the largest flowers of Missouri’s milkweed species, with greenish outer parts and purple centers. It grows 1 to 2 feet tall under full sun in dry or rocky soils.

Other species may be propagated and used by skilled gardeners who appreciate what these species add to their plantings.

## Press Down

To ensure germination, press the seed into the soil. In small spaces, simply walk around and press the seed in with your feet. For larger areas, drive over the planting



**Great spangled fritillary butterflies on purple milkweed**





Common milkweed



Sullivant's milkweed



Spider (green) milkweed



Whorled milkweed



Swamp milkweed



Butterflyweed



Purple milkweed

with a lawn tractor with wide tires or pull a lawn roller or cultipacker over the area.

### ***Sunlight***

Select your location carefully to allow young plants at least six hours of sunlight each day. During the first growing season, young plants need full sunlight to grow strong. In flower beds, learn to identify the seedlings and keep beds weeded to allow seedlings to grow. In larger plantings where weeding is impractical, mow them periodically to maintain them at about 6 inches in height. Even if you cut some of the milkweeds' leaves, ensuring that the remaining vegetation receives sunlight is worth sacrificing some plant height to avoid shade cast from taller annual weeds like ragweed, foxtail, and horseweed.

### ***Patience***

Many native wildflower seedlings are destroyed due to lack of patience and misunderstanding. Remember, these plants are investing in long-term survival, not a rapid flush of growth and flowering just to make seed and die like annuals. It's not unusual for native forb seedlings to grow a few inches above ground, as well as over a foot below ground, in their first year. I once germinated a compassplant that grew 12 inches above ground and over 3 feet of root length in only three months after germination.

Learn to identify your seedlings and give them time. Once established, they will provide you and pollinators with flowers for decades to come. If you need some flowering in the first year, include some quick-blooming species like lance-leaf coreopsis. Recognizing seedlings can



January and February are prime months to start your own milkweed plants from seed. To germinate seeds in pots, sow the seeds on the surface of the soil.



Sprinkle ¼-inch of soil on top of seeds and press firmly. Place the pot outside in an exposed, sunny location. Seeds need to be in cold, damp soil 30–60 days for them to germinate. Wait to transplant until plants have at least two to three sets of true leaves.



be tricky, so use this guide to identify young native forb seedlings: [1.usa.gov/1LxHDv5](http://1.usa.gov/1LxHDv5).

### Germinating Seeds in Pots

Germinating milkweeds and other native wildflowers in pots for transplanting is a good alternative to planting directly in the ground. Planting valuable seed into pots can result in literally dozens or hundreds of plants. Some species are especially difficult to establish in plantings and require special seed treatments, so growing them in pots for transplanting is a better strategy for increasing diversity of restorations. Plants grown in pots can establish quicker than the same species germinated in the ground. Transplants will often flower years earlier, too.

Plants started in pots can be transplanted easily into existing flower beds or habitats. These plants will have a higher chance of survival than simply broadcasting seed into the vegetation and hoping that a seedling survives. Transplanting in the fall seems to increase the survival of the young plants.

### Choosing a Pot

The size of the pot doesn't matter, though smaller containers require frequent watering. Larger, deeper pots

will allow plants to develop deeper roots, which may make transplanting more difficult. I find that recycling half-gallon and 1-gallon landscaping pots works very well and will grow several plants per pot.

### Planting in Pots

Regardless of your container size, the process of planting is similar:

- » Plant any time between November and the end of March (January and February are best).
- » Ensure your potting soil is damp and sterile, so you won't have weeds.
- » Fill your container with potting soil and drop the pot a few times on a hard surface until the soil is firmly settled in. Refill as needed so soil is just below the rim of the pot.
- » Sow the seed on the surface of the soil. Aim for sowing about one viable seed per square inch. Viable seeds will have a germ — or a raised lump in the center of the seed surrounded by a wing — as opposed to empty seeds, which are flat. Sprinkle ¼-inch of soil onto the seeds and press firmly or drop the pot again to settle.
- » Place the pot in an exposed, sunny location to allow snow, ice, and rain to awaken the seeds.



### Thinning

Your seeds will germinate in spring. Keep the pots in a sunny location and water them as needed to maintain moist soil, but don't overwater. If plants are crowded when they pop up, thin them out or carefully transplant them to other pots or into the ground, but wait until they have at least two to three sets of true leaves, or those that grow after the seed leaves.

The potted seedlings are very hardy and can grow for some time in the pots. In fact, if the pot is set on the ground, the plants will likely grow through the bottom and root into the ground beneath. If you don't have the yard space to plant them, butterflyweed and rose verbena provide habitat for monarchs and can be grown in large pots together.

### Landscape With Natives

Gardening with milkweeds and native plants presents a unique opportunity. Rather than insisting on pristine leaves and flowers with no real use to wildlife, we can learn to value a garden that is both colorful with flowers and teaming with busy butterflies, caterpillars, birds, frogs, and other living things. When many different species can enjoy a native planting, the whole living community can be enjoyed as a thing of beauty.

Bear in mind that with native plants, chewed, eaten leaves must be left alone to fuel the caterpillars that later morph into pollinating butterflies and moths. Even caterpillars provide a food source for frogs, birds, and other life that we enjoy watching. Most native plants naturally resist overconsumption with their own chemical resistance, so they do not become so ragged as to become unsightly.

If you want to enjoy beautiful flowers for years while helping to maintain the phenomenon of migrating monarchs, milkweeds certainly have a place on your property, whether in your landscaping or other locations. Why not try your hand at producing some plants this year? For some easy tips and plans for backyard monarch habitat, visit [mdc.mo.gov/monarch](http://mdc.mo.gov/monarch).

Milkweeds — both plants and seeds — can be purchased from Missouri's many native plant dealers. Visit [GrowNative.org](http://GrowNative.org) for more information. Additional information, including landscaping plans, is available at [on.mo.gov/10gD8SJ](http://on.mo.gov/10gD8SJ). ▲

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*Norman Murray is the species and habitat chief in the Wildlife Division. He is an avid naturalist and propagator of native plants. Last year he grew 20 species of native plants, including four milkweed species, for his property and to share with friends.*

### Pests

Some pests will affect milkweed plants. Generally, these will not threaten the survival of the plant, but may make them unsightly. If your goals include seed production, these insects may require some control. However, keep in mind that the "pest" species also serve as food sources for other insects attracted to a native garden, and are not always bad.

#### Oleander aphids

These tiny yellow-orange aphids are ubiquitous and seemingly appear spontaneously. All are female, as they reproduce asexually and give live birth, and they can exhibit explosive population growth. They inhabit tender tips of milkweeds and undersides of leaves most densely. At high densities, they can weaken plants and may spread diseases. If control is necessary, use liquid dish soap at 1½ tablespoons per gallon of water (1⅛ teaspoons per quart) and thoroughly spray the aphids. The soap will not harm most other insects, including caterpillars, but may cause some burning to the plant leaves if the mix is too strong. Consider spraying the plant with water a couple of hours later to minimize damage.



NORMAN MURRAY

#### Milkweed bugs

These orange-and-black insects look similar to boxelder bugs and pierce milkweed stems and pods to suck the sap and other plant juices. They especially attack pods to suck developing seed germ and will destroy its viability. If seed production is a goal, control of some kind — soap as for aphids, knocking nymphs off plants, or squashing — will be necessary.



NOPPADOL PAOTHONG

#### Moth caterpillars

Other caterpillars also use milkweeds as their host plants and may dine on their leaves. These fuzzy caterpillars are those of moths, including the milkweed tussock moth, also called the milkweed tiger moth. Again, keep in mind that these caterpillars are part of the reason you planted milkweeds and are adding to the diversity of your habitat. If control is required on young plants, they may be picked by hand.



DAVID CAPPAERT, MICHIGAN STATE UNIVERSITY, BUGWOOD.ORG



## Northern Cardinal

A PAIR OF northern cardinals braces against a late-winter storm in Franklin County. This year-round Missouri resident is perhaps the most recognizable bird in our state. While the eastern bluebird, another Missouri gem, holds the honor of Missouri's state bird, the cardinal holds seven official state bird designations, the highest of any bird.

The male northern cardinal (*Cardinalis cardinalis*), sometimes referred to as a redbird, is completely awash in an extraordinary shade of red, except for a patch of deep black around the face. Even the bill of the cardinal is red — the finishing touch on a child's vision of a perfect songbird. A pronounced crest and long tail further enhance the appearance of this stunning species.

The female cardinal is quite arresting as well, her body in soft shades of brown and buff, her wings and tail highlighted with rusty red. She shares the same red bill as the male, and an eye-catching streak of reddish-orange at the tip of her crest. Many bird lovers actually prefer the subtle beauty of the female cardinal over her dazzling counterpart.

Cardinals are a common permanent resident in Missouri, and they don't migrate far from their birthplace, except to establish new territory as they mature. Cardinals are typically found in woodlands, parks, yards, and brushy areas where they forage on the ground for a variety of insects, seeds, and fruits. Nesting occurs in thickets and shrubs where the female can build a well-hidden nest. We often find cardinals nesting in a rangy rosebush at the corner of our house.

Cardinals produce a variety of songs and calls, most of which are two- to three-part whistles. They also make a loud "chip" that can be heard when two cardinals are communicating or when an individual senses a threat. Rare in the songbird world, the female cardinal sings, often from the nest as she communicates with the male. I find the songs and calls of the cardinal difficult to describe, but if you listen to a recording of cardinals on any birding application, I guarantee you will recognize the calls immediately as those you have heard in your own backyard.

Cardinals are territorial during the breeding season, and they are known for attacking their reflection in windows. When I'm photographing cardinals in spring, my 500 mm lens is not immune to the aggressive nature of males as they spot their reflection in the huge front element. I've been known to flinch at the sight of a bright red patch racing toward me out of nowhere.

My favorite time to watch and photograph cardinals is during winter snowstorms when their red plumage falls in dramatic contrast to the white landscape. Every winter our local cardinals flock to a particular eastern red cedar that is always heavy with tiny, berry-like cones. The red cardinals, green branches, blue cones, and white snow all come together for a holiday feeling that always makes me smile.

—Story and photograph by Danny Brown

 500mm lens + 1.4 teleconverter • f/6.3 • 1/200 sec • ISO 400

We help people discover nature through our online field guide. Visit [on.mo.gov/1M3cWgI](http://on.mo.gov/1M3cWgI) to learn more about Missouri's plants and animals.









## White River Trace Conservation Area

*If small-game hunting — especially for quail and rabbit — interests you, put this Dent County area on your list.*

THIS 2,044-ACRE AREA, purchased in 1988, gets its name from an old Native American trail running across the land's southeast section. Under the Indian Removal Act of 1830, the Cherokee were removed from their native lands in the southeastern United States and forcibly moved to Oklahoma. During this time, U.S. soldiers were put in charge of large groups of Cherokee to form detachments. Peter Hildebrand's detachment of 1,766 Cherokees traveled through White River Trace in March 1839. They later rejoined the larger Trail of Tears route at Marshfield. The White River Trace later became a major route for settlers traveling west.

Today, White River Trace is a unique conservation area that offers visitors the opportunity to walk through the same tall grass prairie littered with woody cover. You may be surprised by the wildlife you see as you hike or hunt the area.

Department staff have completed a lot of hard work to restore the area to pre-settlement conditions, including open woodlands and native warm-season grasslands that were commonly found in Missouri. These grasslands and quality upland wildlife habitat are especially attractive to bobwhite quail and other grassland bird species, such as grasshopper sparrows and dickcissels. This type of habitat is uncommon on the Salem plateau, so the area provides a unique recreational and wildlife viewing opportunity for this part of the state. Area visitors often enjoy birdwatching and hiking on several miles of interior roads that are closed to vehicles.



📷 70–200mm lens • f/5.6 • 1/160 sec • ISO 100 | by David Stonner

Please note this area offers a shorter quail season — Nov. 1 to Dec. 15 — than the regular statewide season. Hunters in the area are required to fill out a free daily hunting card and return it to the area headquarters after each day's hunt. This allows the Department to keep track of harvest and populations.

—Justin Gailey, area manager



### White River Trace Conservation Area

**Recreation Opportunities:** Hunting, fishing, birding, and wildlife viewing

**Unique Features:** Restored woodland, restored prairie, upland forest

**For More Information:** Call 417-256-7161 or visit [mdc.mo.gov/a8917](http://mdc.mo.gov/a8917)



MDC

# DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit [mdc.mo.gov](http://mdc.mo.gov) and choose your region.

## DISCOVER NATURE — SQUIRREL HUNTING WORKSHOP

**JAN. 9 • SATURDAY • 9 A.M.–1:30 P.M.**  
(ORIENTATION)

**JAN. 23 • SATURDAY • 9 A.M.–12 P.M.**  
(SQUIRREL HUNT)

**JAN. 23 • SATURDAY • 1–3 P.M. (FIELD TO FORK)**  
*Kansas City Region, Burr Oak Woods  
Conservation Nature Center,  
1401 NW Park Road,  
Blue Springs, MO 64015  
Registration required, call 816-228-3766  
Ages 10 and older, children must be  
accompanied by an adult*

## TREE TAPPING 101

**JAN. 16 • SATURDAY**

**10–11:30 A.M. OR 1–2:30 P.M.**

*Southeast Region, Cape Girardeau  
Conservation Nature Center,  
2289 County Park Drive,  
Cape Girardeau, MO 63701*

*Registration required, beginning Jan. 2.  
Call 573-290-5218*

*Ages 12 and older, adult supervision required  
for ages 12–17*

'Tis the season for maple sugaring! Learn how to identify sugar maple trees and select the right ones to tap. Then go outside to try your hand at tapping the trees. Dress for the weather.

## NATURE NUTS

**JAN. 16 • SATURDAY • 10 A.M.–11:30 A.M.**

*Ozark Region, Twin Pines Conservation  
Education Center, RT 1 Box 1998,  
Winona, MO 65588*

*Registration required, call 573-325-1381  
Ages 7–12*

Join us for a little bird watching. We will view the migratory birds that call Missouri home for a few months each year.

## DISCOVER NATURE SCHOOLS TEACHER TRAINING: NATURE REVEALED

**JAN. 20 • WEDNESDAY • 10 A.M.–3 P.M.**

*Central Region, Central Region Office,  
3500 East Gans Road,  
Columbia, MO 65201*

*Registration required by Jan. 15.*

*Call 573-815-7900*

*Preschool teachers*

The newest curriculum in the Department's Discover Nature Schools program, Nature Revealed, is designed for preschool-aged children. Based on the Project Construct framework, the Teacher's Guide will be provided at the workshop. Clock hours offered. Please join us for this exciting, hands-on training.



## IDEAS FOR FAMILY FUN

## DISCOVER NATURE — METALLIC AND SHOTGUN SHELL RELOADING BASICS

**JAN. 23 • SATURDAY • 8:30–11:30 A.M.**

*Southwest Region, Andy Dalton Shooting  
Range and Outdoor Education Center,  
4895 N. Farm Road 61, Ash Grove, MO 65604  
Registration required, call 417-742-4361*

*Ages 18 and older*

Join us for this basic course about reloading rifle, pistol, and shotgun shell ammunition. We will cover all aspects of reloading from brass care and preparation, bullet selection, primer selection, and much more.

## AN EVENING WITH RAPTORS

**JAN. 29 • FRIDAY • 7–9 P.M.**

*St. Louis Region, Powder Valley Conservation  
Nature Center, 11715 Cragwood Road,  
Kirkwood, MO 63122*

*Reservations required, call 314-301-1500*

*All ages*

The evening will begin with a presentation on raptors and the art of falconry. You will have an opportunity to meet the falconers and their hunting partners, and see some of the equipment used in the sport of falconry.

## ICE FISHING 101 CLINIC

**JAN. 30 • SATURDAY • 8 A.M.–1 P.M.**

*Northeast Region, Hunnewell Lake,  
6503 Hwy Z, Hunnewell, MO 63443*

*Registration required by Jan. 29.*

*Call 573-248-2530*

*Ages 7 and older*

This is a basic class, but all experience levels are welcome. In the classroom portion, students will learn about ice safety, fish identification, equipment, and regulations. They will then go outside to apply what they learned. The clinic will be held whether ponds ice or not. However, it will be canceled if hazardous road/weather conditions are present.





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## I Am Conservation

Christine Kline was first introduced to birding when she was dating her husband. "His parents had bird feeders in their backyard, and I was captivated," Kline said. "For my birthday, they gave me a bird guide, and I became a backyard birder until my first local Audubon meeting in 2008. Field trips and the occasional 'bird chase' came soon thereafter, and I was hooked. Well, perhaps 'obsessed' or 'bird crazy' is more accurate." Kline is co-chair of Wings over Weston, an annual festival at Weston Bend State Park, which introduces children to birds, their migration, and the importance of conservation habitat. "The festival is a partnership between Burroughs Audubon and Missouri State Parks and is generously supported by the Missouri Department of Conservation, Missouri Master Naturalists, and others," said Kline. "I truly appreciate the opportunity to introduce children to the thrill of birding. When their eyes light up with wonder as they see a bird, it gives me great joy. I also love interacting with the children who are already hooked on birds, like the toddler who came to Wings Over Weston once and told me about the tuft of a titmouse at the age of 3!" Kline's love of birds and nature leads her to a variety of volunteer activities, including events at the Department's James A. Reed Memorial Wildlife Area. In addition to birding, she enjoys fly fishing and canoeing. "I love being on the water," Kline said. "I'm looking forward to purchasing a kayak soon." —*photograph by David Stonner*